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Downing

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[54] **FOOTBALL WITH BLADDER PROTECTIVE PANEL**

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[52] **U.S. Cl.** ..... **273/65 A**; 273/65 B

[58] **Field of Search** ..... 273/65 R, 65 A, 273/65 B, 65 C, 65 D, 65 EC, 65 ED, 65 F, 58 BA

[56] **References Cited**

U.S. PATENT DOCUMENTS

1,002,928	9/1911	Pierce .	
1,621,898	3/1927	Pierce	273/65 A
2,012,376	8/1935	Caro .	
2,078,141	4/1937	Hesper	273/65 A
2,874,965	2/1959	Martin .	
3,804,409	4/1974	Schachner	273/65 A X
4,274,633	6/1981	Benscher .	
4,341,382	7/1982	Arnold .	
5,098,097	3/1992	Kennedy et al. .	

FOREIGN PATENT DOCUMENTS

590480	6/1925	France .
810365	8/1951	Germany .
1084180	6/1960	Germany .
2029706	3/1980	United Kingdom .
WO94/23805	10/1994	WIPO .

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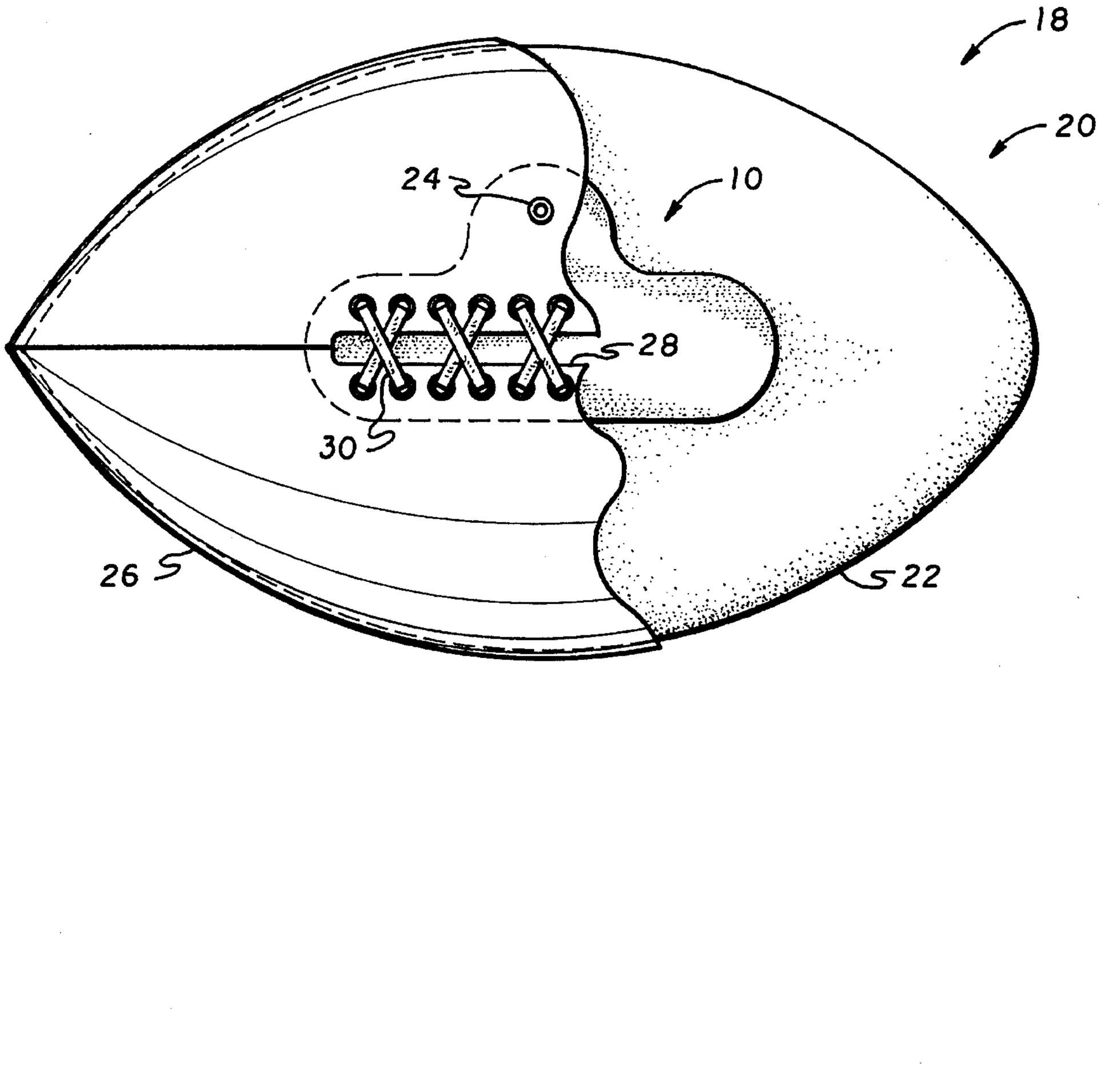
[57] **ABSTRACT**

An anchoring arrangement for the flap which covers the portion of the bladder of an American football which would otherwise be exposed beneath the laces. The flap is provided with a lateral extension having a hole formed therein. The hole surrounds the inflation valve of the bladder. The flap is encouraged to maintain its location when placed on the bladder during assembly of the football. Glue conventionally employed is eliminated. Elimination of glue solves two problems. One is that glue can dry and fail to secure the flap as intended. The other is that glue clogs holes employed for lacing.

5 Claims, 1 Drawing Sheet



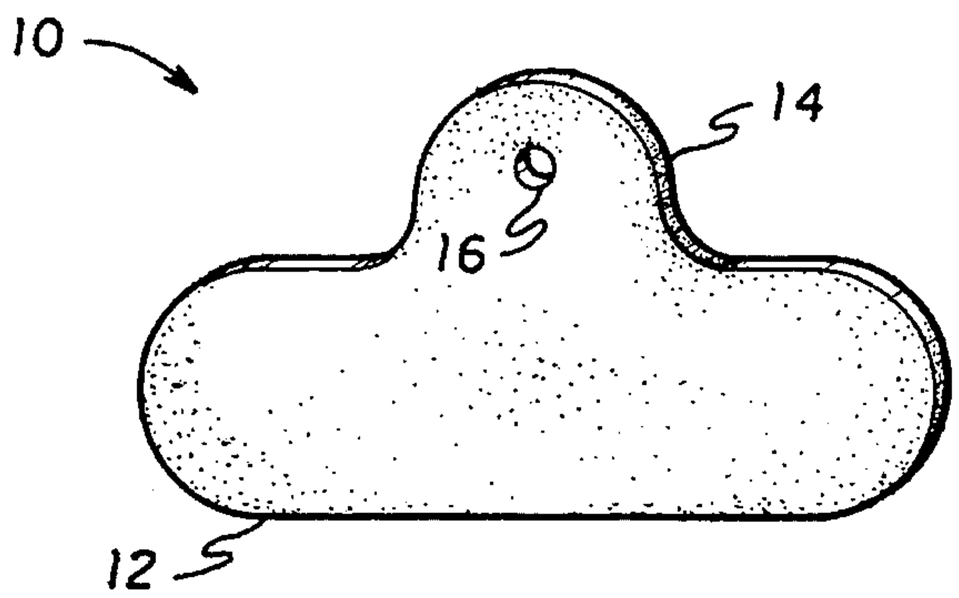


FIG. 1

FIG. 2

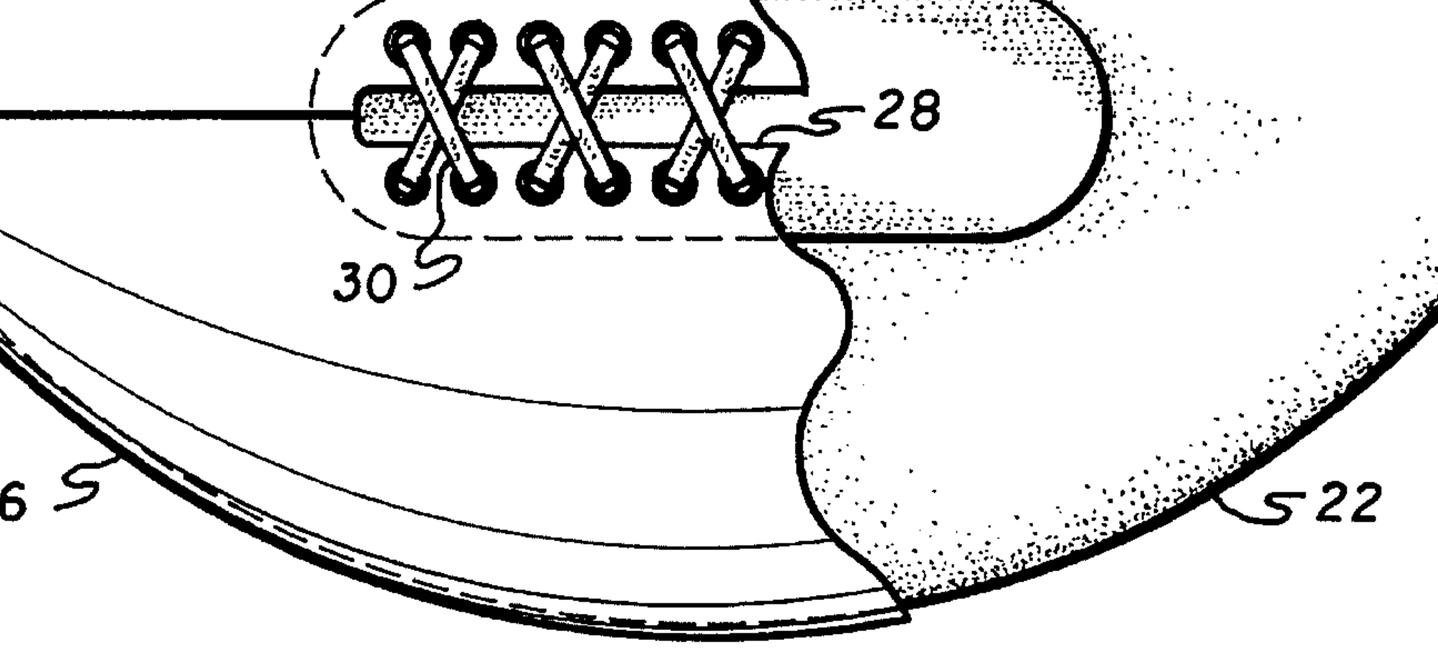


FIG. 3

FOOTBALL WITH BLADDER PROTECTIVE PANEL

BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

The present invention relates to a component for assembling a football during fabrication. The component comprises a panel of material positioned below the laces of the football, for protecting the bladder against puncture primarily during fabrication. The panel has a lateral extension for engaging the inflation valve of the football, thus maintaining the novel panel in place during fabrication.

2. DESCRIPTION OF THE PRIOR ART

In the manufacture of inflatable balls having lacing on the exterior, puncture of the bladder is a known hazard. In particular, American footballs are particularly susceptible to puncture due to traditional design in which a longitudinal gap is formed in the cover. This gap would expose a portion of the bladder except for the presence of a flap of material, or protective panel, placed there to remedy this deficiency.

During manufacture of an American football, the panel is set in place, and the assembler maneuvers the bladder into place within the cover, with the protective panel glued in place on the bladder. Two problems arise from this procedure. The first is that as the ball awaits the lacing step, the glue dries, and the panel is no longer secured properly to the bladder. The panel is then free to move out of its intended location, and must be reinstalled and reglued. This problem increases the labor required to assemble a football.

A second problem is that glue is apt to clog the holes that receive the lacing. The clogged holes obstruct the lacing operation.

The prior art fails to address this problem. Constructions of inflatable balls will reveal that while reinforcing or protective panels are known, the present invention is not disclosed. A reference which at first appears to show aspects of the invention is German Pat. Document No. 810,365, dated Aug. 9, 1951. A panel shown therein has upper and lower layers for enveloping a disc which secures a valve tube in a desired condition. Although this panel is located below laces, it functions differently from that of the present invention. In the German document, the panels joined by lacing abut one another. There is no gap as is present in an American football. Thus, the panel is not required to prevent hazardous exposure of the bladder.

U.S. Pat. Nos. 1,002,928, issued to George L. Pierce on Sep. 12, 1911, and 2,874,965, issued to Orville R. Martin on Feb. 24, 1959, both illustrate reinforcing panels. The former invention addresses breakage of the neck of the bladder by covering the same with a protective patch. The latter illustrates a reinforcing lamination located below the laces of a molded rubber football.

U.S. Pat. No. 5,098,097, issued to Thomas Kennedy et al. on Mar. 24, 1992, shows an internal patch serving as a counterweight, for maintaining balance of a ball thrown with spiralling in-flight rotation.

French Pat. No. 590,480, dated Jun. 17, 1925, sets forth a flap for sealing a gap enabling the filling tube of the bladder to exit the cover.

German Pat. Document No. 1,084,180, dated Jun. 23, 1960, describes a flap for covering a valve opening.

These inventions and patents do not teach anchoring of a protective flap for covering an exposed portion of a ball bladder by engagement with the valve structure of the bladder. Thus, none of the above inventions and patents, taken either singly or in combination, is seen to describe the instant invention as claimed.

SUMMARY OF THE INVENTION

The present invention solves several problems associated with the manufacturing of American footballs. As described above, gluing the protective panel in place during manufacturing leads to failure of the glue and to clogging of lacing holes.

In place of conventional strips of material employed as protective panels, the present invention includes an extension of the material having a hole formed therein. This extension serves as a yoke when placed over the valve of the bladder. The yoke substantially maintains the protective panel in place as the bladder is inserted into the cover. With the protective panel thus engaging and being anchored by the bladder, gluing is not required.

In a preferred construction, the protective panel is configured to employ minimal material, since all excess material will render the panel more difficult to manipulate during assembly, and will also tend to unbalance the resultant football. As described in U.S. Pat. No. 5,098,097, to Kennedy et al, unbalancing will degrade the performance of the football when thrown.

Accordingly, it is a principal object of the invention to provide a protective panel for the portion of a football bladder which would be exposed beneath the laces, which panel is anchored to the football by mechanical engagement therewith.

It is another object of the invention to eliminate gluing in place of a protective panel during assembly of a football.

It is a further object of the invention to design a protective panel to employ minimal material, thereby making the panel easier to manipulate into place during manufacture, and minimizing the weight of the panel.

It is an object of the invention to provide improved elements and arrangements thereof in an apparatus for the purposes described which is inexpensive, dependable and fully effective in accomplishing its intended purposes.

These and other objects of the present invention will become readily apparent upon further review of the following specification and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of the invention.

FIG. **2** is an environmental, side elevational view of the invention, with environmental elements partly broken away for clarity.

FIG. **3** is an environmental, cross sectional view of the invention.

Similar reference characters denote corresponding features consistently throughout the attached drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

FIG. **1** shows the construction of the novel protective panel **10**. Panel **10** includes an elongated section **12** and a lateral projection **14**. Projection **14** includes a hole **16**.

Panel **10** is shown in place on a football **18**, after assembly of the latter. Football **18** has a bladder **20** including a flexible, inflatable bag **22** and a valve **24** projecting outwardly therefrom.

A cover **26** surrounds bladder **20**, and is formed from a plurality of panels sewn together. Rather than abutting continuously at all edges, two panels are formed to define a longitudinally oriented gap **28** therebetween, to enable insertion of bladder **20** during assembly. Gap **28**, if not covered, would expose bladder **20**. Laces **30** cross gap **28** to prevent

excessive separation from adjacent cover panels. Panel **10** is placed between bladder **20** and cover **26** in such a position as to cover gap **28** after final assembly.

During assembly and prior to final inflation of bladder **20**, projection **14** is placed into surrounding engagement with valve **24**. This is accomplished by passing valve **24** through hole **16** of projection **14**. Projection **14** extends to and beyond valve **24**, so that after engagement with valve **24**, longitudinal section **12** is not withdrawn from its effective location beneath gap **28**.

Hole **16** is of a predetermined close fit cooperating with the outer diameter of valve **24**. If the material from which panel **10** is fabricated is not resilient, then hole **16** is of a diameter close to that of valve **24**. If a resilient material is chosen, then the diameter of hole **16** may be slightly smaller than that of valve **24**. It is desired that projection **14** not be allowed significant play with respect to valve **24**, which play could allow section **12** to easily move from its desired position. However, a tight fit is not required to limit play between projection **14** and valve **24**, and thus to anchored panel **10** in place within the football during assembly.

Panel **10** is made from a flexible material, so that it can be appropriately manipulated during assembly, and so that it can conform to the configuration of the football during use. Under conditions of use, a football can sustain hard impacts which temporarily distort the characteristic shape.

Conditions of use, including impacts, vibration, temperature changes, and others, could also dislodge panel **10** from its position between bladder **20** and cover **26**. To prevent dislodging, panel **10** is preferably formed to dimensions greater than those of gap **28**, panel **10**, thereby overlapping gap **28**.

Section **12** is of continuous construction, in the sense of lacking perforations, slits, or other disruptions to continuity, so as to cover bladder **20** fully, and provide an effective barrier to external objects which might puncture bladder **20**. Projection **14** serves as a tether, and need not have continuous construction.

To minimize size of panel **10**, it comprises section **12**, longitudinally oriented in order to align with gap **28**, and projection **14** projects laterally therefrom. Section **12** terminates below cover **26** in the sense that it does not cover a greater surface area of bladder **20** than is necessary to perform its protective function. This limitation in area helps to maintain weight distribution of the football, panel **10** contributing little more than weight offsetting that lost in the formation of gap **28**. FIG. **3** illustrates overlapping of panel **10** with respect to gap **28**. The limited surface area of

bladder **20** can also be seen in this Figure.

It is to be understood that the present invention is not limited to the sole embodiment described above, but encompasses any and all embodiments within the scope of the following claims.

I claim:

1. A football comprising:

a bladder having a flexible, inflatable bag and a valve projecting outwardly therefrom;

a cover surrounding said bladder, said cover having means defining a longitudinally oriented gap therein exposing said bladder, said cover having laces crossing said gap; and

a flexible protective panel disposed between said bladder and said cover, and covering said gap and terminating below said cover, and having means defining an opening engaging said valve.

2. The football according to claim **1**, said protective panel having a solid and continuous longitudinally oriented section closing said gap, and a lateral projection extending to and beyond said valve, said opening engaging said valve being located on said lateral projection.

3. The football according to claim **1**, said opening being of predetermined close fit with respect to the outer diameter of said valve.

4. The football according to claim **1**, said panel overlapping said gap, whereby said gap is effectively sealed when said football is in use.

5. A football comprising:

a bladder having a flexible, inflatable bag and a valve projecting outwardly therefrom;

a cover surrounding said bladder, said cover having means defining a longitudinally oriented gap therein exposing a said bladder, said cover having laces crossing said gap; and

a flexible protective panel disposed between said bladder and said cover, and covering and overlapping said gap, and terminating below said cover, said protective panel having a continuous, longitudinally oriented section closing said gap, and a lateral projection extending to and beyond said valve, said lateral projection having means defining an opening located on said lateral projection, said opening being of predetermined close fit with respect to the outer diameter of said valve, for surroundingly engaging said valve.

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